

Saúde mental de profissionais de saúde durante a pandemia de COVID-19: Estudo em comunidades virtuais

Objetivo: avaliar a saúde mental de profissionais de saúde durante a pandemia de COVID-19.

Metodologia: estudo transversal, realizado com 112 profissionais de saúde, participantes de duas comunidades virtuais voltadas a profissionais de saúde. Utilizou-se o instrumento *Self-Report Questionnaire*. Foram realizadas análises de associação e regressão logística multivariada.

Resultados: a média de idade foi de 35,15 anos, sendo a maioria do sexo feminino, sem companheiro, moradores da região nordeste do Brasil. A prevalência de sofrimento mental foi de 33%. Nas análises inferenciais, o sofrimento mental demonstrou associações com a idade, sendo que a cada aumento de um ano na idade estava relacionado com a redução de cerca de 8% nas chances de manifestar sofrimento mental. **Conclusão:** há indicadores de sofrimento mental e associação com a idade, evidenciados entre os profissionais de saúde, o que demonstra a necessidade de estratégias que sirvam como recursos protetores e promotores da saúde mental a esse grupo laboral.

Descritores: Pessoal de Saúde; COVID-19; Saúde Mental; Pandemias; Mídias Sociais.

Salud mental de profesionales de la salud durante la pandemia de COVID-19: Estudio en comunidades virtuales

Objetivo: evaluar la salud mental de los profesionales de la salud durante la pandemia de COVID-19.

Metodología: estudio transversal realizado con 112 profesionales de la salud que participan en dos comunidades virtuales, dirigido a trabajadores de la salud. Se utilizó el instrumento *Self-Report Questionnaire*. Se realizaron análisis de asociación y regresión logística multivariada.

Resultados: la edad promedio fue de 35,15 años, siendo la mayoría mujeres, sin pareja, y residentes en la región nordeste de Brasil. La prevalencia del sufrimiento mental fue del 33%. En los análisis inferenciales, el sufrimiento mental demostró asociaciones con la edad, y cada aumento de un año en la edad se relacionó con una reducción de cerca del 8% en las posibilidades de manifestar sufrimiento mental. **Conclusión:** existen indicadores de sufrimiento mental y una asociación con la edad, evidenciados entre los profesionales de la salud, lo que demuestra la necesidad de estrategias que sirvan como recursos protectores y promotores de la salud mental para este grupo de trabajo.

Descriptores: Personal de Salud; COVID-19; Salud Mental; Pandemias; Medios de Comunicación Sociales.

Introduction

In December 2019, the city of Wuhan, China, became the center of an outbreak of Severe Acute Respiratory Syndrome of previously unknown etiology. This was the initial milestone of an outbreak caused by a new coronavirus (SARS-CoV-2), causing what was called coronavirus disease (COVID-19). The World Health Organization (WHO) declared a Public Health Emergency of International Concern and the disease was considered a pandemic on March 11th, 2020⁽¹⁻²⁾.

The COVID-19 pandemic exposed health professionals (HPs) to major biological risks due to the enormous transmissibility potential of the virus. In addition, faced with a disease that resulted in incalculable harms to global public health, the professional practice in the health category generated fear, concern and anguish, thus impacting Mental Health (MH)⁽³⁾.

Respiratory infectious diseases exert a detrimental negative impact on the psychological well-being of the general population and HPs alike, particularly in the early phase of an outbreak⁽⁴⁾. It was no different in the context of confronting COVID-19. Some studies have evidenced high prevalence values of harms to MH, mainly in professional categories such as physicians and nurses, which suggests a higher risk of emotional exhaustion at work⁽⁵⁻⁶⁾.

To cope with the COVID-19 pandemic, efforts were needed from multiprofessional teams to contain viral spread, among organizational changes that increased the workload of the professionals, who were already working under adverse conditions, increasing stressors and overload⁽⁷⁾.

In research studies about the effects of COVID-19 on the MH of health teams, an intrinsic relationship with the occurrence of depression, anxiety, insomnia and stress was shown. Among the most identified risk factors for the greatest psychological impact of COVID-19 on HPs, we can mention the following: being female, being a nurse, having low socioeconomic level and being in situations of high contamination risk⁽⁸⁾.

It is important to perceive the vulnerability, or even the occurrence of mental illness in HPs as a Public Health problem, observing the factors that lead professionals to have their MH compromised and highlighting that the search for protective measures is essential to prevent and avoid harms and health problems⁽⁹⁾.

In this sense, it is important to understand the factors influencing the mental health of HPs working during the COVID-19 pandemic, which was the cause of thousands of deaths in Brazil in 2020, reflecting the most critical moment in Public Health in the country.

Given this context, the objective of the current study was to evaluate health professionals' mental health during the COVID-19 pandemic.

Methodology

Study design

This is a cross-sectional and exploratory study. The research was guided by the STROBE tool and by the Checklist for Reporting Results of Internet E-Surveys (CHERRIES).

Setting

The study was developed in two Facebook® Virtual Communities (VCs) aimed at health professionals and at the COVID-19 pandemic. To choose the virtual communities, a survey was carried out in the following section: "Search for people, places and things" using the keyword "health professionals". The two VCs selected were as follows: "Health Professionals" (15,800 members), created on 01/29/2011, and "COVID-19 questions answered by health professionals" (611,300 participants), created on 03/15/2020.

Period

The data were collected from September to December 2022.

Population

The study population consisted of health professionals participating in two virtual communities on Facebook®.

Selection criteria

The inclusion criteria for the VCs were as follows: "health professionals" in the group name or description; description in Portuguese and those with the highest number of members and posts. The inclusion criteria for participants were the following: health professionals (of both genders); over eighteen years of age; actively providing services in the assistance area, meeting the COVID-19 demands; and members of the VCs selected.

The following subjects were excluded from the study: health professionals who work outside the assistance area, such as directors, coordinators and managers; VCs of commercial or institutional origin; and absence of recent posts.

Definition of the sample

For the sampling design, the non-probability and for convenience technique was used. Therefore, 112 health professionals participated in this study.

Data collection

The participants were recruited through public messages posted on the forums from the selected VCs.

The messages contained the study presentation, as well as the Free and Informed Consent Form (FICF) available to the members. If they agreed to participate in the study, they would have to declare their consent to participate, using an electronic form on Google Forms.

The following instruments were used for data collection:

1 - A questionnaire to characterize the sociodemographic profile, containing the following variables: age (years old), gender (female, male), marital status (with partner, without partner), schooling (graduate studies, higher education, high school), job category (higher level, technical level), workplace (hospital unit, others) and region of origin (Northeast, Southeast, Central-West, South, North).

2 - Self-Report Questionnaire-20 (SRQ-20), which is a screening instrument consisting of twenty dichotomous items with "Yes" or "No" answers, where each item adds one point to the final score. This scale was created by the WHO to evaluate indicators of Common Mental Disorders (CMDs), especially in primary care contexts⁽¹⁰⁾.

SRQ-20 investigates non-psychotic symptoms related to insomnia, fatigue, appetite, thinking, mood and somatic problems, which are manifestations of CMDs⁽¹¹⁾. Due to its objectivity and practicality, this questionnaire is widely used worldwide. Its most common use is through a cutoff point, which directs the decision regarding whether the respondent is clinical or not. The cutoff point for defining mental distress suggested by the creators of SRQ-20 is equal to or greater than seven⁽¹²⁾.

Studies of SRQ-20 using factor analysis suggest that, in addition to the patient's global assessment through the summative score of the instrument's questions and cutoff point, the instrument can be divided by dimensions. One way to use the tool is by dimensions, distributed as follows: (a) Depressive/Anxious mood; (b) Somatic symptoms; (c) Decreased energy; and (d) Depressive thoughts^(10,13). In this research, it was decided to also apply the instrument in this format.

Data treatment and analysis

Data analysis was performed using descriptive statistics, presented by means of absolute and relative frequencies. To determine how distress was related to sociodemographic characteristics, the Chi-square or Fisher's Exact tests were used.

Multivariate logistic regression analyses were performed using the occurrence of mental distress as dependent variable. All results were presented as Odds Ratios (OR) and 95% Confidence Intervals (CIs). The significance level was set at $p \leq 0.05$ and all analyses were performed using the Statistical Package for the Social Sciences (SPSS), version 25.

Ethical aspects

The current study was guided by the determinations set forth in Resolution 466/12, which regulates research with human beings, as well as in Circular Letter No. 02 of February 24th, 2021, which deals with guidelines for procedures in research with any stage in a virtual environment. In addition, approval was obtained from the Research Ethics Committee of the University of Rio Verde (UniRV), under CAAE number 58189122.4.0000.5077. The members of the virtual communities who agreed to participate in the research were informed about the study objectives, the data collection methods and confidentiality of their identity, signing the FICF.

Results

The sample consisted of 112 health professionals, with a mean age of 35.15 years old (SD ± 7.5) and most of them female: 81 (72.3%). In relation to marital status, 71 (63.4%) did not have a partner. The workers came from the five Brazilian regions, with the Northeast having the highest frequency of participants: 61 (54.5%). Regarding schooling, 58 (51.8%) had Higher Education and, in relation to work category, 95 (84.8%) were in the higher level. Most of the HPs included in this study were working in a hospital unit: 62 (55.4%) (Table 1).

Table 1 - Characterization of the health professionals' sociodemographic profile during the COVID-19 pandemic. Formosa, GO, Brazil, 2022

Variable	N*	%†
Age - Mean (SD)‡	35.15 (± 7.508)	
Gender		
Female	81	72.3
Male	31	27.7
Marital status		
Without a partner	71	63.4
With a partner	41	36.6

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Variable	N*	%†
Region		
Northeast	61	54.5
Southeast	6	5.4
Midwest	32	28.6
South	5	4.5
North	8	7.1
Schooling		
Graduate Studies	58	51.8
Higher Education	42	37.5
High School	12	10.7
Work Category		
Higher Level	95	84.8
Technical Level	17	15.2
Workplace		
Hospital Unit	62	55.4
Others (Outpatient Service, Primary Care, etc.)	50	44.6

*N = Absolute number; †% = Percentage; ‡SD = Standard Deviation

Table 2 presents the prevalence of symptoms by SRQ-20 symptom groups. Regarding the Depressive/Anxious mood dimension, the most prevalent symptom refers to the sensation of nervousness, tension or concern (55.4%). In turn, in the context of Decreased vital energy, 39.3% report that they get tired easily. For the Somatic symptoms, it was possible to identify that

30.4% had frequent headaches. When the Depressive thoughts were assessed, difficulty in decision-making was found in 36.6% of the participants.

Among those evaluated, the prevalence of mental distress obtained through the Self-Report Questionnaire-20 (SRQ-20) analysis was 37 (33%), as can be seen in Table 3.

Table 2 - Distribution of the answers according to the Self-Report Questionnaire groups among health professionals during the COVID-19 pandemic. Formosa, GO, Brazil, 2022

	N* (%†)	95% CI‡
Depressive/Anxious mood		
Have you been feeling sad lately?	33 (29.5)	(20.6-37.5)
Do you sleep poorly?	55 (49.1)	(39.3-58)
Have you been crying more than usual?	22 (19.6)	(11.6-26.8)
Do you feel nervous, tense or worried?	62 (55.4)	(46.4-64.3)
Do your hands tremble?	14 (12.5)	(7.1-18.8)
Do you get scared easily?	35 (31.3)	(22.3-39.3)
Decreased vital energy		
Do you have difficulties at work (your job is painful, it causes you distress)?	26 (23.2)	(15.2-31.2)
Do you get tired easily?	44 (39.3)	(30.4-48.2)
Do you feel tired all the time?	35 (31.3)	(22.3-39.3)
Do you find it difficult to carry out your daily activities satisfactorily?	37 (33)	(24.1-41.1)
Somatic symptoms		
Do you have unpleasant sensations in your stomach?	28 (25)	(17-33)
Do you have lack of appetite?	9 (8)	(3.6-13.4)
Do you have indigestion?	26 (23.2)	(15.2-31.2)
Do you have frequent headaches?	34 (30.4)	(21.4-38.4)
Depressive thoughts		
Do you have difficulties thinking clearly?	28 (25)	(17-33)
Do you have difficulty making decisions?	41 (36.6)	(27.7-45.5)
Are you incapable of developing a useful role in your life?	5 (4.5)	(0.9-8.9)
Have you lost interest in things?	30 (26.8)	(18.8-35.7)
Do you feel like a useless, worthless person?	9 (8)	(2.7-13.4)
Have you had the idea of ending your life?	5 (4.5)	(0.9-8)

*N = Absolute number; †% = Percentage; ‡95% CI = 95% Confidence Interval

Table 3 - Prevalence of mental distress among health professionals during the COVID-19 pandemic. Formosa, GO, Brazil, 2022

Mental Distress	N*	%†	95% CI‡
No	75	67	(58-75.9)
Yes	37	33	(24.1-42)

*N = Absolute number; †% = Percentage; ‡95% CI = 95% Confidence Interval

Table 4 presents the frequency of mental distress and the association with the independent variables. In relation to gender, the majority of the sample with mental distress was female (30 [81.1%]) and had no partner (24 [64.9%]). Regarding the region of residence in the country, most of the sample with mental distress was from the Northeast region: 25 (67.6%). It was identified that health professionals with graduate studies and belonging to the Higher Level work category presented higher incidence of psychological distress: 24 (64.9%) and 34 (91.9%), respectively. Finally,

in relation to workplace, there were no discrepant differences between working in a hospital unit (18 [48.6%]) and others (19 [51.4%]). In the inferential analyses, mental distress did not show associations with the variables analyzed.

Logistic regression analyses were performed to identify independent predictors correlated with mental distress. The results showed a statistically significant association with age, in which each one-year-old increase in age was related to a reduction of nearly 8% in the chances of manifesting mental distress (Table 5).

Table 4 - Distribution of health professionals during the COVID-19 pandemic, according to mental distress and independent variables. Formosa, GO, Brazil, 2022

Variable	Total Sample	Mental Distress		p‡
		No N* (%†) 75 (67)	Yes N* (%†) 37 (33)	
Gender				0.146
Female	81 (72.3)	51 (68)	30 (81.1)	
Male	31 (27.7)	24 (32)	7 (18.9)	
Marital status				0.820
Without a partner	71 (63.4)	47 (62.7)	24 (64.9)	
With a partner	41 (36.6)	28 (37.3)	13 (35.1)	
Region				0.70
Northeast	61 (54.5)	36 (48)	25 (67.6)	
Southeast	6 (5.4)	6 (8)	0 (0)	
Midwest	32 (28.6)	25 (33.3)	7 (18.9)	
South	5 (4.5)	2 (2.7)	3 (8.1)	
North	8 (7.1)	6 (8)	2 (5.4)	
Schooling				0.179
Graduate Studies	58 (51.8)	34 (45.3)	24 (64.9)	
Higher Education	42 (37.5)	32 (42.7)	10 (27)	
High School	12 (10.7)	9 (12)	3 (8.1)	
Work Category				0.143
Higher Level	95 (84.8)	61 (81.3)	34 (91.9)	
Technical Level	17 (15.2)	14 (18.7)	3 (8.1)	
Workplace				0.316
Hospital Unit	62 (55.4)	44 (58.7)	18 (48.6)	
Others (Outpatient Service, Primary Care, etc.)	50 (44.6)	31 (41.3)	19 (51.4)	

*N = Absolute frequency; †% = Percentage; ‡p = Chi-square or Fisher's Exact tests

Table 5 - Logistic Regression model adjusted for the factors associated with mental distress among health professionals during the COVID-19 pandemic. Formosa, GO, Brazil, 2022

Variable	OR* (95% CI)†	p‡
Age	0.93 (0.88-0.99)	0.048
Gender		
Male	Reference	
Female	2.01 (0.77-5.24)	0.150

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Variable	OR* (95% CI) [†]	p [‡]
Marital status		
With a partner	Reference	
Without a partner	1.10 (0.48 – 2.50)	0.820
Region		
South	Reference	
Southeast	4.26 (0-1.02)	0.986
Midwest	0.18 (0.02-1.35)	0.096
North	0.22 (0.02-2.45)	0.219
Northeast	0.46 (0.07-2.98)	0.417
Schooling		
Higher Education	Reference	
Graduate Studies	2.25 (0.93-5.45)	0.070
High School	1.06 (0.24-4.71)	0.932
Work Category		
Technical Level	Reference	
Higher Level	2.60 (0.69-9.69)	0.154
Workplace		
Others (Outpatient Service, Primary Care, etc.)	Reference	
Hospital Unit	0.66 (0.30-1.47)	0.317

*OR= Odds Ratio; [†]95% CI = 95% Confidence Interval; [‡]p = Chi-square or Fisher's Exact tests

Discussion

The current study evidenced that 33% of the workers assessed had psychological distress, which can be characterized as an indicator of correlation between presence of emotional symptoms and the experience of the new coronavirus pandemic. In a cross-sectional study with 1,459 HPs conducted in Spain, psychological distress was reported by 80.6% of the participants, reiterating a high prevalence of CMDs in this group⁽¹⁴⁾.

The COVID-19 pandemic has made changes to health systems necessary. These adaptations disrupted HPs' usual work dynamics, in addition to the emergence of new stressors that potentially affected their mental health, triggering risk factors for the development of psychological distress, stress and depression⁽¹⁵⁾.

The sociodemographic profile of this study has similar characteristics to a survey carried out in Portugal on HPs' mental health during the first wave of COVID-19, in which 78.5% of the 680 participants were female, with a mean age of 45.05 years old, mostly married (59.6%) and with Higher Education training level (84.5%)⁽¹⁶⁾. In the Brazilian context, a study on the MH of HPs conducted with 1054 participants, the sample consisted mainly of women (81%), with a mean age of 41.7 years old and 57.2% married⁽¹⁷⁾.

In this study, the main symptom experienced by the health professionals in the Depressive/Anxious mood dimension was the sensation of nervousness, tension and concern, occurring in 55.4% of the participants. This result is analogous to a study that analyzed the frequency of sadness, nervousness and sleep changes during the COVID-19 pandemic among 45,161 Brazilians, which

verified that 40.4% frequently felt sad or depressed and 52.6% frequently felt anxious or nervous⁽¹⁸⁾.

These findings can be attributed to the fact that HPs represent a vulnerable group during pandemics, as they experience several dilemmas, such as death of patients, fear of contagion and viral transmission to family members, in addition to lack of Personal Protective Equipment, among others. Such factors can increase stressors, work overload and psychological pressure, which in turn lead to high levels of anxiety, stress and depressive symptoms, as well as more subtle symptoms such as insomnia⁽¹⁹⁾.

In the Decreased vital energy dimension, this study showed that 39.3% of the participants had the main complaint of getting tired easily, which refers to the symptom of fatigue. In a study carried out in Spain with 506 HPs who worked in the care of COVID-19 patients, it was identified that the fatigue levels among the professionals were from moderate to high⁽²⁰⁾. In a literature review, it was observed that work overload resulted in lack of rest, prolonged exposure to infected patients and working under pressure in these professionals⁽²¹⁾.

In relation to the somatic symptoms, it was possible to identify that 30.4% had frequent headaches. In a study carried out in Spain, which analyzed the possible association between the onset of headaches and the types of masks used by HPs during the period of maximum COVID-19 incidence, it was identified that 51.6% of those surveyed reported headache instances, with the impact of this symptom being higher in subjects that used filter masks⁽²²⁾.

In a study carried out with 906 professionals from Singapore and India, a wide variety of physical

symptoms experienced by these professionals during the coronavirus pandemic were found. The most common reported physical symptoms were headache (31.9%), odynophagia (33.6%), anxiety (26.7%), lethargy (26.6%) and insomnia (21%)⁽²³⁾.

The SRQ-20 domain linked to depressive thoughts identified that 36.6% of the participants had difficulty making decisions. It is known that the pandemic context changed the health care offer due to the increased demand for appointments and scarcity of resources. Faced with the new situation, HPs certainly questioned how to proceed in situations that required assertiveness in decision-making, quickly⁽²⁴⁾.

The sample analyzed showed predominance of mental distress in females (81.1%). The COVID-19 pandemic led to an increase in gender differences in mental health, with women being more susceptible to the development and/or intensification of anxiety and depression symptoms. This fact corroborates a study which found that, during the COVID-19 pandemic, women presented higher psychological distress rates when compared to men⁽²⁵⁻²⁶⁾.

By means of the sociodemographic variables, it was also found that mental distress was more present in individuals without a partner (64.9%) and with graduate studies (64.9%). Findings from a study investigating subjective distress related to COVID-19 and its social correlates revealed that there was MH disparity during the COVID-19 pandemic, with certain social groups at higher risk of distress than others. In addition, they include those with better schooling levels and without a partner⁽²⁷⁾.

Furthermore, according to mental distress and sociodemographic variables of the current study, only advanced age was associated with lower mental distress risks. This indicator is in line with a study carried out in Ethiopia, where the prevalence of psychological distress among HPs was high and associated with specific sociodemographic risks, especially linked to younger age⁽²⁸⁾. In a study carried out in the United States, which evaluated depression levels before and after the COVID-19 pandemic, it was concluded that young adults experienced a sharp increase in depression of 13.4 percentage points, higher than any other age group⁽²⁹⁾.

In a Brazilian study, young adults presented higher prevalence of negative mental health symptoms during the pandemic, when compared to older participants⁽¹⁸⁾. These findings suggest that young adults may be particularly more vulnerable to the effects of COVID-19 on MH⁽²⁹⁾.

As limitations of the current study, the results herein presented were limited to those who participate in virtual communities aimed at health professionals and who had access to the Internet during the study period, which

may impact generalization of the findings. In addition to that, pre-pandemic data were not collected, precluding comparisons about the psychological impact before and during the pandemic.

As study strengths, having used a consistent theoretical model and instruments adapted for the Brazilian context stands out, which obtained adequate analyses regarding the association between the independent variables and the dependent one (presence of mental distress).

As practical implications, the study contributes not only to elucidating diverse evidence about the relationship between COVID-19 and health professionals' MH, but also to understanding the actual needs for the development of actions and strategies aimed at promoting health workers' mental health in crisis situations, such as a pandemic in this case, as presence of the coronavirus certainly increased the triggering factors for mental illness in these professionals' work environment.

Conclusion

The results showed that the prevalence of mental distress among the health professionals evaluated was considerable. It was revealed that age was a protective factor against the development of common mental disorders, considering that the possibilities of psychological distress were reduced as age increased.

This study contributes to advancing knowledge on the theme by conferring visibility to the repercussions of the COVID-19 pandemic on health professionals' mental health.

Further studies are necessary to monitor the late impacts of these experiences and the harms to health workers' health, as well as new research studies aimed at strengthening strategies that serve as protective and promoting resources for health workers' mental health.

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